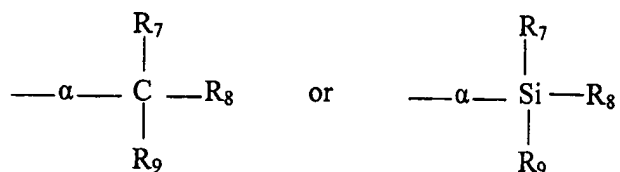


Claims

1. A compound for use in medicine that has the formula a), b), c) or d), as shown in Figure 1; wherein  $R_1$ ,  $R_2$ ,  $R_3$ ,  $R_4$ ,  $R_5$  and  $R_6$  are (independently) hydrogen or any other moiety and X is any moiety, with the proviso that the compound is not the compound shown in Figure 3b); and wherein the compound has higher activity than cyclopent-2-en-1-one in respect of one or more of the following:-
  - a) activating HSF
  - b) inhibiting NF- $\kappa$ B
  - c) inhibiting the replication of HSV-1
  - d) inhibiting the replication of Sendai virus.
2. A compound for use in medicine according to claim 1, wherein  $R_1$ ,  $R_2$ ,  $R_3$  and  $R_4$  are (independently) hydrogen, halogen, substituted or unsubstituted alkyl, substituted or unsubstituted alkenyl, substituted or unsubstituted alkynyl, substituted or unsubstituted alkoxy, substituted or unsubstituted aminoalkyl, substituted or unsubstituted alkylthio, substituted or unsubstituted alkylsulfinyl, substituted or unsubstituted alkylsulfonyl, substituted or unsubstituted carbocyclic aryl, substituted or unsubstituted aralkyl, or substituted or unsubstituted heteroaromatic or heteroalicyclic.
3. A compound for use in medicine according to claim 1 or claim 2, wherein X is an Si-containing group.

4. A compound for use in medicine according to any preceding claim, wherein X has the formula



in which  $R_7$ ,  $R_8$  and  $R_9$  are defined as for  $R_1$ ,  $R_2$ ,  $R_3$  and  $R_4$  in claim 1 or claim 2, and in which  $\alpha$  is absent or provides a linkage with the oxygen of OX.

5. A compound for use in medicine according to claim 4, wherein  $R_7$ ,  $R_8$  and  $R_9$  are substituted alkyl, aryl or substituted aryl.
6. A compound for use in medicine according to any preceding claim, wherein X comprises at least 4 carbon atoms.
7. A compound for use in medicine according to any preceding claim, wherein  $R_5$  and  $R_6$  are independently hydrogen or halogen.
8. A compound for use in medicine according to any preceding claim, wherein if a side chain is present at positions  $R_3$  and/or  $R_4$  shown in Figure 1, then it has no more than 7 carbon atoms.
9. A compound for use in medicine according to any of claims 1 to 7, wherein a hydrocarbyl side chain is not present at positions  $R_3$  and/or  $R_4$  shown in Figure 1.

10. A compound for use in medicine according to claim 9, wherein  $R_3$  and/or  $R_4$  shown in Figure 1 are hydrogen.
11. A compound for use in medicine according to claim 1, which is a compound as shown in Figure 2 a) or b).
12. A compound for use in medicine according to any preceding claim, which is an S- enantiomer.
13. A compound for use in medicine, wherein the compound is a compound as shown in Figure 10.
14. The use of a compound in the preparation of a medicament for treating a viral-mediated disorder, wherein the compound is as described in any of claims 1 to 13.
15. The use of a compound in the preparation of a medicament for treating a bacterial-mediated disorder, wherein the compound is as described in any of claims 1 to 13.
16. The use of a compound in the preparation of a medicament for treating a disorder mediated by radiation, wherein the compound is as described in any of claims 1 to 13.
17. The use of a compound in the preparation of a medicament for treating an inflammatory disorder, wherein the compound is as described in any of claims 1 to 13.

18. The use of a compound in the preparation of a medicament for treating a disorder of the immune system, wherein the compound is as described in any of claims 1 to 13.
19. The use of a compound in the preparation of a medicament for treating ischemia, wherein the compound is as described in any of claims 1 to 13.
20. The use of a compound in the preparation of a medicament for treating arteriosclerosis, wherein the compound is as described in any of claims 1 to 13.
21. The use of a compound in the preparation of a medicament for treating a disorder involving cell proliferation, wherein the compound is as described in any of claims 1 to 13.
22. The use according to claim 21, wherein the disorder is a cancer
23. The use of a compound in the preparation of a medicament for treating a disorder involving damage to cells or killing of cells, wherein the compound is as described in any of claims 1 to 13.
24. The use of a compound in the preparation of a medicament for treating diabetes, wherein the compound is as described in any of claims 1 to 13.
25. The use of a compound in the preparation of a medicament for treating a disorder involving calcium loss or deficiency, wherein the compound is as described in any of claims 1 to 13.

26. The use of a compound in the preparation of a medicament for treating a disorder affecting aquatic organisms, wherein the compound is as described in any of claims 1 to 13.
27. The use according to claim 26 wherein the disorder is a viral disorder.
28. The use of a compound in treating a plant disorder, wherein the compound is a compound as described in any of claims 1 to 13.
29. The use according to claim 28, wherein the plant disorder is a viral disorder.
30. The use of a compound as a research tool for the analysis of one or more of the following: HSF, NF- $\kappa$ B, the heat shock response, viral replication, viral-mediated disorders, bacterial-mediated disorders, disorders mediated by radiation (e.g. by UV-radiation), inflammatory disorders, disorders of the immune system, ischemia, arteriosclerosis, disorders involving cell proliferation, disorders involving damage to, or killing of cells, or diabetes; disorders involving calcium loss or deficiency, disorders affecting aquatic organisms or plant disorders, wherein the compound is as described in any of claims 1 to 13.
31. A novel compound having a formula as shown in Figure 10, wherein the compound is not a compound as shown in Figure 2.
32. A pharmaceutical composition comprising a compound as described in any preceding claim and optionally including a pharmaceutically acceptable carrier
33. Food for an aquatic organism comprising a compound as described in any of claims 1 to 13.

34. Food according to claim 33, wherein the food is fish food or crustacean food.
35. An aquaculture system comprising a compound as described in any of claims 1 to 13.
36. The invention as substantially hereinbefore described.